

WHAT IS CLAIMED IS:

Sub Q1 1.

A method of processing transmission data to inhibit error propagation in a digital image data communication system, the method comprising:

(a) inputting an image frame from an external source;

5 (b) checking for feedback error information including the location of an erroneous block on a first compressed image frame detected during decoding by a decoder, the feedback error information received via a communication network;

10 (c) if it is determined in step (b) that there is feedback error information, intracoding an erroneous block, the location of which is included in the feedback error information, and its search range, which is referred to to encode the erroneous block using an intercoding method, among the image frame input in step (a), thereby constituting a second compressed image frame; and

15 (d) transmitting the compressed image frame constituted in step (c), via a communication network.

2. The method of claim 1, wherein the error block location included in the feedback error information in step (b) is set in units of 16 (pixel)×16 (pixel) macro blocks.

3. The method of claim 1, wherein the search range in step

(c) includes 16 pixels or 32 pixels in four directions on the basis of the erroneous block.

4. The method of claim 1, wherein the feedback error information in step (b) is associated with the image frame immediately preceding a current image frame.

5. A method of processing transmission data to inhibit error propagation in a digital image data communication system, the method comprising:

(a) inputting an image frame from an external source;

5 (b) when the image frame input in step (a) is the first image frame in a specific sequence, encoding the entire image frame using an intracoding method, to constitute a compressed image frame;

(c) when the image frame input in step (a) is not the first image frame in a specific sequence, checking feedback error information
10 including the location of an erroneous block on a compressed image frame detected during decoding by a decoder, the feedback error information received via a communication network;

(d) if it is determined in step (c) that there is feedback error information, intracoding an erroneous block, the location of which is
15 included in the feedback error information, and its search range, which is referred to to encode the erroneous block using an intercoding method,

among the image frame input in step (a), while the remaining area of the input image frame is encoded by intercoding, thereby constituting a compressed image frame, and if it is determined in step (c) that no
20 feedback error information is received, intracoding block(s) selected by a predetermined method from among the blocks of the image frame input in step (a), and intercoding the remaining blocks, thereby constituting a compressed image frame; and

(e) transmitting the compressed image frame constituted in step
25 (b) or (d), via a communication network.

6. The method of claim 5, wherein the error block location included in the feedback error information in step (c) is set in units of 16 (pixel)×16 (pixel) macro blocks, and the search range in step (c) includes
5 16 pixels or 32 pixels in four directions on the basis of the erroneous block.

7. A method of processing received data to inhibit error propagation in a digital image data communication system, the method comprising:

(a) receiving a compressed image frame via a communication
5 network;

(b) decoding the compressed image frame received in step (a) to constitute an image frame;

(c) if an error is detected at a specific block on the compressed image frame received in step (a) during the decoding in the step (b),
10 sending feedback error information including an error block location back to an encoder via a communication network; and

(d) outputting an image frame restored in step (b).

8. The method of claim 7, wherein the error block location included in the feedback error information in step (c) is set in units of 16 (pixel)×16 (pixel) macro blocks.

9. A computer-readable recording medium for recording a program which is executed in a computer for processing transmission data to inhibit error propagation in a digital image data communication system, the program comprising the steps of:

5 (a) inputting an image frame from an external source;

(b) checking feedback error information including the location of an erroneous block on a first compressed image frame detected during decoding by a decoder, the feedback error information received via a communication network;

10 (c) if it is determined in step (b) that there is feedback error information, intracoding an erroneous block, the location of which is included in the feedback error information, and its search range, which is referred to to encode the erroneous block using an intercoding method,

among the image frame input in step (a), thereby constituting a second
15 compressed image frame; and

(d) transmitting the compressed image frame constituted in step
(c), via a communication network.

10. A computer-readable recording medium for recording a
program which is executed in a computer for processing transmission
data to inhibit error propagation in a bidirectional digital image data
communication system, the program comprising the steps of:

5 (a) inputting an image frame from an external source;

(b) when the image frame input in step (a) is the first image frame
in a specific sequence, encoding the entire image frame using an
intracoding method, to constitute a first compressed image frame;

(c) when the image frame input in step (a) is not the first image
10 frame in a specific sequence, checking feedback error information
including the location of an erroneous block on a second compressed
image frame detected during decoding by a decoder, the feedback error
information received via a communication network;

(d) if it is determined in step (c) that there is feedback error
15 information, intracoding an erroneous block, the location of which is
included in the feedback error information, and its search range, which is
referred to to encode the erroneous block using an intercoding method,

among the image frame input in step (a), while the remaining area of the input image frame is encoded by intercoding, thereby constituting a third compressed image frame, and if it is determined in step (c) that no
20 feedback error information is received, intracoding block(s) selected by a predetermined method among the blocks of the image frame input in step (a), and intercoding the remaining blocks, thereby constituting a fourth compressed image frame; and

25 (e) transmitting the compressed image frame constituted in step (b) or (d), via a communication network.

11. A computer-readable recording medium for recording a program which is executed in a computer for processing received data to inhibit error propagation in a digital image data communication system, the program comprising the steps of:

5 (a) receiving a compressed image frame via a communication network;

(b) decoding the compressed image frame received in step (a) to constitute an image frame;

(c) if an error is detected at a specific block on the compressed
10 image frame received in step (a) during the decoding in the step (b), sending feedback error information including an error block location back to an encoder via a communication network; and

(d) outputting an image frame restored in step (b).